

## **REMARKS**

Upon entry of the present amendment, claims 1-25 and 27-31 will remain pending in this application. Claim 26 is cancelled in this paper. Applicant respectfully submits that no new matter is added by the present amendment. In particular, Applicant respectfully submits that the subject matter added to claims 1, 9, 17, and 25 is supported in the Specification at least at paragraphs [0035] and [0038]. The additional subject matter added to claim 25 is supported in the Specification at least at paragraphs [0042] and [0046].

Claims 1-31 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Warhol Worms: The Potential for Very Fast Internet Plagues published on February 13, 2002, by Weaver (“Weaver”) in view of Simulating and Optimizing Worm Propagation Algorithms published on September 29, 2003, by Vogt (“Vogt”).

### ***Claim Rejections Under 35 U.S.C. § 103(a)***

Claims 1-37 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Weaver in view of Vogt. As to claims 1, 9, and 17, the rejection is understood to be based on the premise that Weaver discloses the invention as claimed, except for the limitation of “transferring the data to the another element of the network along with an indication of at least a portion of the addresses remaining in the second set by specifying a range of addresses in the second set of addresses.” Vogt is alleged to disclose this limitation at section 4.4 on page 17.

Applicant respectfully traverses the rejection. Claim 1, as amended above, recites a method for propagating data over a network. A sequential first set of network addresses is determined. A range of addresses in the sequential first set of network addresses is mapped to a second set of addresses. The second set of addresses is a one to one mapping of the range of addresses in the first set, and the addresses in the second set are not in increasing address order. The second set of addresses is traversed to find another element of the network. The data is transferred to the another element of the network along with an indication of at least a portion of the addresses remaining in the second set by specifying a range of addresses in the second set of addresses. Traversed addresses of the second set of addresses are excluded from the specified range of addresses.

By contrast, neither Weaver nor Vogt discloses excluding addresses that have been traversed from the range of addresses that is transferred. Weaver, for example, states at page 4 that “[i]n a permutation scan, an already infected machine responds differently than a potential target, as a way of telling the scanning worm that the machine is infected” and that “[w]henever [a worm] sees an already infected machine, it chooses a new, random start point and proceeds from there.” Accordingly, it appears that, in Weaver, machines that are already infected are scanned and therefore have addresses that are included in the range of addresses to scan. Similarly, Vogt states at page 16 that “[t]he initial worms will scan the entire network, the 2nd generation only half, the 3rd only a quarter, etc.” Thus, Applicant understands that in Vogt, the “entire” network is scanned by the initial worms, and that subsequent generations of worms divide the workload of scanning, but no mention is made of excluding addresses that have already been scanned. As noted at paragraph [0035] of the instant Specification, it is “undesirable for the newly enlisted computing devices to re-scan the portion of the address space that has been previously scanned, e.g., portion 31a.”

For at least the above reasons, Weaver and Vogt fail to disclose all of the limitations of claim 1, whether considered individually or in combination. In particular, Weaver and Vogt fail to disclose at least the limitation “wherein traversed addresses of the second set of addresses are excluded from the specified range of addresses.” Therefore, claim 1 is patentable over Weaver in view of Vogt.

Claims 2-8 and 28 depend from claim 1 and are also patentable over Weaver in view of Vogt at least by reason of this dependency.

Claim 9 is directed to a system that comprises sets of computer readable instructions. Like claim 1, claim 9 recites the limitation “wherein traversed addresses of the second set of addresses are excluded from the specified range of addresses.” Accordingly, claim 9 is patentable over Weaver in view of Vogt for at least the same reasons set forth above in connection with claim 1. Claims 10-16 depend from claim 9 and are also patentable over Weaver in view of Vogt at least by reason of this dependency.

Claim 17 is directed to a computer-readable storage medium that contains computer-executable instructions that, when executed, cause a computer to perform the steps recited in claim 1. Claim 17 recites the limitation “wherein traversed addresses of the second set of addresses are excluded from the specified range of addresses” and is patentable over Weaver

in view of Vogt at least for the reasons set forth above in connection with claim 1. Claims 18-24 depend from claim 17 and are also patentable over Weaver in view of Vogt at least by reason of this dependency.

Claim 25, as amended, is directed to a method for distributed computing propagation. At an act (a), a sequential first set of network addresses is determined. At an act (b), a map of ranges in the sequential first set of network addresses is mapped to a second set of addresses wherein the second set of addresses is a one to one pseudo-random mapping of the range of addresses in the first set and wherein the addresses in the second set are not in increasing address order, wherein the mapping is a function based on powers of a primitive element. At a step (c), the second set of addresses is traversed to locate at least two other elements of the network. At a step (d), the addresses of the second set of addresses that were not traversed in act (c) are subdivided into a plurality of portions. Addresses of the second set of addresses that were traversed in act (c) are excluded from the portions. At a step (e), a set of computer readable instructions is transferred to the at least two other elements of the network to carry out a distributed computing function. At a step (f), an indication of each portion of the addresses remaining in the second set is transferred by specifying a range of addresses in the each portion along with a set of computer-readable instructions for carrying out acts (a) through (e) to a respective element of the at least two other elements.

Thus, in the method of claim 25 only “the addresses of the second set of addresses that were not traversed” are included in the subdivision process. Addresses that were traversed are excluded from the subdivision process. As discussed above in connection with claim 1, neither Weaver nor Vogt discloses this feature.

In addition, claim 25 recites further limitations that are not recited in the other independent claims and that further distinguish claim 25 from the prior art of record. For example, claim 25 recites that “the mapping is a function based on powers of a primitive element.” For at least these reasons, Applicant respectfully submits that claim 25 is patentable over Weaver in view of Vogt. Claim 26 is cancelled in this paper. Claims 27 and 29-31 depend from claim 25 and are also patentable over Weaver in view of Vogt.

Based at least on the above remarks, Applicant respectfully submits that the currently pending claims are patentable over the prior art of record and requests reconsideration and removal of the rejections under 35 U.S.C. § 103(a).

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**PATENT**

**CONCLUSION**

In view of the above amendments and remarks, Applicant respectfully submits that the present application is in condition for allowance. Reconsideration of the application is respectfully requested.

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